

CLAIMS

1. A device for bagging dry ingredients, comprising:

a weighing mechanism operable to dispense and weigh stored dry ingredients;

and,

a packaging mechanism operable to allow the dry ingredients in predetermined amounts sequentially dispensed by the weighing mechanism to be encapsulated in sequence into small bags, the small bags being formed continuously from a belt-like packaging material having a certain width,

wherein the packaging mechanism is located below the weighing mechanism, the packaging mechanism being integrated with the weighing mechanism on a common frame,

wherein the weighing mechanism comprises:

(1) a hopper operable to store the dry ingredients and to discharge the dry ingredients in steps out of the hopper through a bottom of the hopper;

(2) a plurality of juxtaposed dispensing pipes positioned horizontally or slanted downward in a direction in which the dry ingredients discharged from the hopper are dispensed, the dispensing pipes being driven into independent rotation, thereby dispensing the dry ingredients in steps from the hopper;

(3) weighing buckets positioned downward from the dispensing pipes, the weighing buckets being operable to weigh the dry ingredients to store the dry ingredients in predetermined amounts, each of the weighing buckets being provided with an open/close damper at a lower portion of each of the weighing buckets in order to dispense the dry ingredients temporarily stored in the weighing buckets; and

(4) a dispensing chute operable to supply the packaging mechanism with the dry ingredients discharged from the weighing buckets, and

wherein the dry ingredients in predetermined amounts stored in the weighing buckets are discharged from the weighing buckets into the dispensing chute through the

open/close dampers of the weighing buckets, and the dry ingredients in the dispensing chute are fed in sequence into the packaging mechanism at elevated speed through the dispensing chute, the packaging mechanism being located beneath the dispensing chute.

2. A device for bagging dry ingredients as defined in claim 1, wherein the packaging mechanism comprises:

a packaging material-folding unit operable to progressively release the packaging material wound in a roll-shape, and to fold the packaging material into two equal parts along a centerline of the packaging material, the centerline being a center of a transverse direction of the packaging material;

a small bag-forming unit operable to fabricate top-open, small bags by permitting the packaging material folded and supplied by the packaging material-folding unit to be longitudinally sealed along an open sideward edge of each of the small bags to be formed, and to be transversely sealed along a lower portion of each of the small bags to be formed, while simultaneously such transverse sealing allows each of the small bags already charged with the dry ingredients to be encapsulated along a top thereof;

a small bag-conveying unit located downward from the small bag-forming unit for intermittently conveying the small bags downward; and

a small bag-separating unit disposed downward from the small bag-conveying unit for allowing the small bags packed with the dry ingredients to be transversely cut off from each other in sequence along each position at which each of the small bags has transversely been sealed.

3. A device for bagging dry ingredients as defined in claim 2, wherein the dispensing chute has a discharge port located over the small bag-forming unit, and the dry ingredients weighed by the weighing buckets are put into the top-open, small bags through the discharge port immediately after formation of the top-open, small bags.

4. A device for bagging dry ingredients as defined in any one of claims 1-3,

wherein the hopper comprises an upper hopper and a lower hopper located below the upper hopper, and a rotating dispenser is provided on the upper hopper at a lower discharge portion of the upper hopper in order to feed the dry ingredients in steps from the upper hopper into the lower hopper through the dispenser.

5. A device for bagging dry ingredients as defined in any one of claims 1-4, wherein the plurality of dispensing pipes are disposed on a common support member, and gradient angles of the plurality of dispensing pipes are simultaneously adjustable.